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VOLUME 1

ELECTRICAL DIGEST

GEORGE CARLIN

“Electricity is really just
organized lightning.”



YEAR IN REVIEW / Oren Harari / Nikola Tesla



**GEETHANJALI INSTITUTE
OF SCIENCE AND
TECHNOLOGY**

HALF YEARLY ELECTRICAL MAGAZINE

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VISION-MISSION

VISION

To make the department as a hub of technological excellence, transforming the future Electrical Engineers into innovative, ethical and responsible professionals.

MISSION

DM1: Adopting effective result oriented techniques that deliver quality education in a learning environment striving to enhance the intellectual capabilities and skills of the learners.

DM2: Providing adequate infrastructure for technical skill development and encourage research in order to meet Industrial demands

DM3: Promoting industry interface and exposure, positive values of integrity, ecological awareness, and societal accountability among the Engineering aspirants

DM4: Empowering undergraduates, guiding them towards bright professional prospects through personality development and life skill-based activities.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of B. Tech in Electrical and Electronics Engineering program shall able to

PEO1: Acquiring professional expertise in several kinds of industrial, societal, and pragmatic uses.

PEO2: Pursuing higher studies, research and development, with other innovative skills and being creative striving in the fields of engineering, science, and technology, proceeding on multiple career paths.

PEO3: Exhibit excellence in Multi-Disciplinary collaborations by showcasing unique interpersonal competencies and ethical practices.

PEO4: Engage in lifelong learning and adapt to the perpetually evolving trends in profession and societal needs.

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THE BLACK

-B. Balaji

HOLE



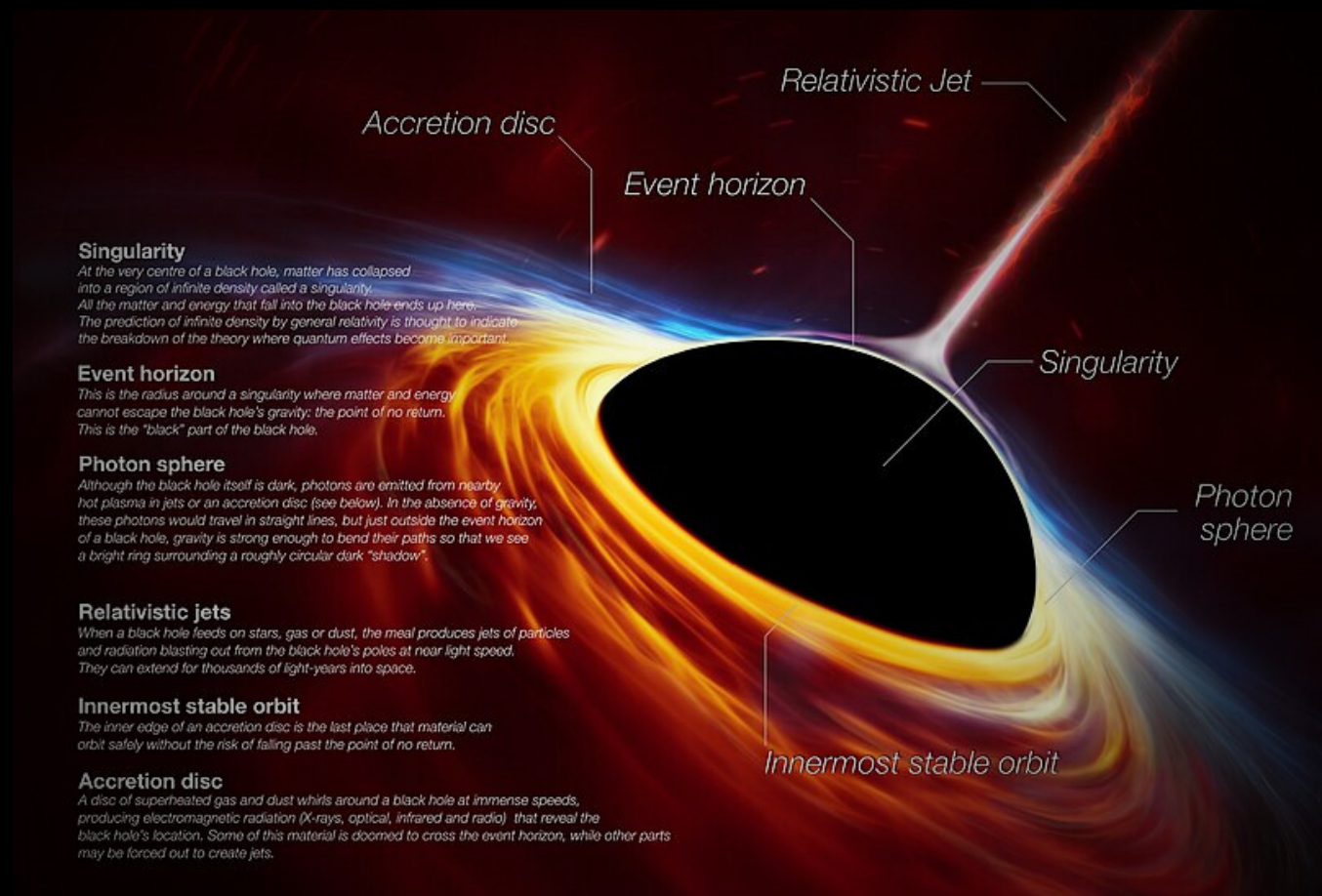
A black hole is a region of spacetime where gravity is so strong that nothing, including light and other electromagnetic waves, has enough energy to escape it.

The theory of general relativity predicts that a sufficiently compact mass can deform spacetime to form a black hole. The boundary of no escape is called the event horizon. Although it has a great effect on the fate and circumstances of an object crossing it, it has no locally detectable features according to general relativity.

In many ways, a black hole acts like an ideal black body, as it reflects no light. Moreover, quantum field theory in curved spacetime predicts that event horizons emit Hawking radiation, with the same spectrum as a black body of a temperature inversely proportional to its mass. This temperature is of the order of billionths of a kelvin for stellar black holes, making it essentially impossible to observe directly.

The no-hair theorem postulates that, once it achieves a stable condition after formation, a black hole has only three independent physical properties: mass, electric charge, and angular momentum; the black hole is otherwise featureless. If the conjecture is true, any two black holes that share the same values for these properties, or parameters, are indistinguishable from one another. The degree to which the conjecture is true for real black holes under the laws of modern physics is currently an unsolved problem. These properties are special because they are visible from outside a black hole. For example, a charged black hole repels other like charges just like any other charged object. Similarly, the total mass inside a sphere containing a black hole can be found by using the gravitational analog of Gauss's law (through the ADM mass), far away from the black hole. These properties are special because they are visible from outside a black hole. For example, a charged black hole repels other like charges just like any other charged object. Similarly, the total mass inside a sphere containing a black hole can be found by using the gravitational analog of Gauss's law (through the ADM mass), far away from the black hole. When an object falls into a black hole, any information about the shape of the object or distribution of charge on it is evenly distributed along the horizon of the black hole, and is lost to outside observers. The behavior of the horizon in this situation is a dissipative system that is closely analogous to that of a conductive stretchy membrane with friction and electrical resistance—the membrane paradigm. This is different from other field theories such as electromagnetism, which do not have any friction or resistivity at the microscopic level, because they are time-reversible.

PROPERTIES AND STRUCTURE





ORIGAMI III SPACE

-A. Abhinash

"The reason we need origami for space applications is because we want to launch structures in space that are just amazingly big,"



Origami from ori meaning "folding", and kami meaning "paper" (kami changes to gami due to rendaku) is the Japanese art of paper folding. In modern usage, the word "origami" is often used as an inclusive term for all folding practices, regardless of their culture of origin.

The goal is to transform a flat square sheet of paper into a finished sculpture through folding and sculpting techniques. Modern origami practitioners generally discourage the use of cuts, glue, or markings on the paper. Origami folders often use the Japanese word kirigami to refer to designs which use cuts.

Many origami books begin with a description of basic origami techniques which are used to construct the models. This includes simple diagrams of basic folds like valley and mountain folds, pleats, reverse folds, squash folds, and sinks. There are also standard named bases which are used in a wide variety of models, for instance the bird .

EVER

An ATM card is a dedicated payment card card issued by a financial institution (i.e. a bank) which enables a customer to access their financial accounts via its and others' automated teller machines (ATMs) ..

HOW AN ATM CARD WORKS ?

WONDER

B. BHAVITHA



ATM cards are payment card size and style plastic cards with a magnetic stripe and/or a plastic smart card with a chip that contains a unique card number and some security information such as an expiration date or CVVC (CVV). ATM cards are known by a variety of names such as bank card, MAC (money access card), client card, key card or cash card, among others. Other payment cards, such as debit cards and credit cards can also function as ATM cards. Charge and proprietary cards cannot be used as ATM cards. The use of a credit card to withdraw cash at an ATM is treated differently to a point of sale transaction, usually attracting interest charges from the date of the cash withdrawal.

Interbank networks allow the use of ATM cards at ATMs of private operators and financial institutions other than those of the institution that issued the cards. The difference between an ATM card and a debit card is the underlying network used to process the transaction. Some debit card networks started their lives as ATM card networks before evolving into full-fledged debit card networks that include eftpos facilities. All ATMs, at a minimum, will permit cash withdrawals of customers of the machine's owner (if a bank-operated machine) and for cards that are affiliated with any ATM network the machine is also affiliated. They will report the amount of the withdrawal and any fees charged by the machine on the receipt. Most banks and credit unions will permit routine account-related banking transactions at the bank's own ATM, including deposits, checking the balance of an account, and transferring money between accounts.

Some ATM cards can also be used at a branch, as identification for in-person transactions.

The use of the ATM card for in store purchases or refunds is allowed only with pre-approved retailers, but not for on-line transactions.

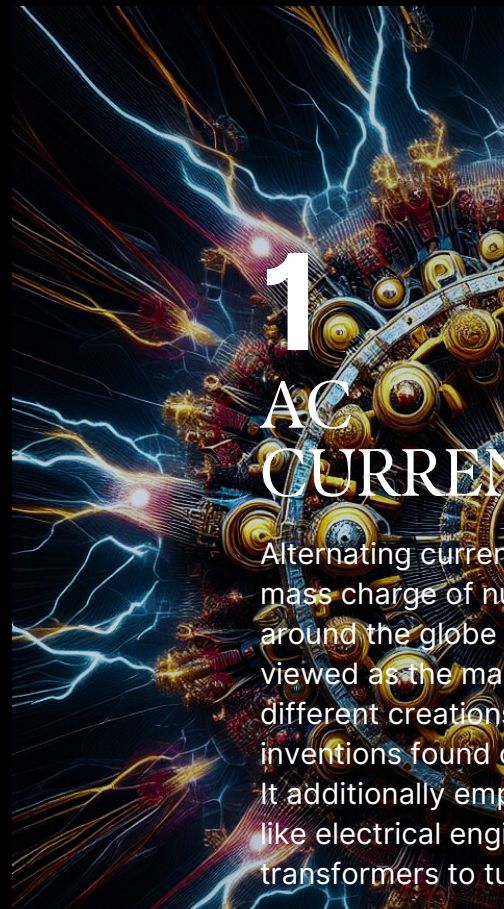
For other types of transactions through telephone or online banking, this may be performed with an ATM card without in-person authentication. This includes account balance inquiries, electronic bill payments, or in some limited cases, online purchases (see Interac Online). ATM cards operate through specific networks. Interlink is just one example of the many ATM networks.

Canada's Interac and Mastercard's Maestro are examples of networks that link bank accounts with point-of-sale equipment.

Some debit card networks also started their lives as ATM card networks before evolving into full-fledged debit card networks such as STAR (Interbank Network), and others such as: Development Bank of Singapore (DBS)'s Network for Electronic Transfers (NETS) and Bank Central Asia (BCA)'s Debit BCA, both of them were later on adopted by other banks (with Prima Debit being the Prima interbank network version of Debit BCA).

THE BEST INVENTIONS

**AN INVENTION IS A UNIQUE OR
NOVEL DEVICE, METHOD,
COMPOSITION, IDEA OR
PROCESS.**



1 AC CURRENT

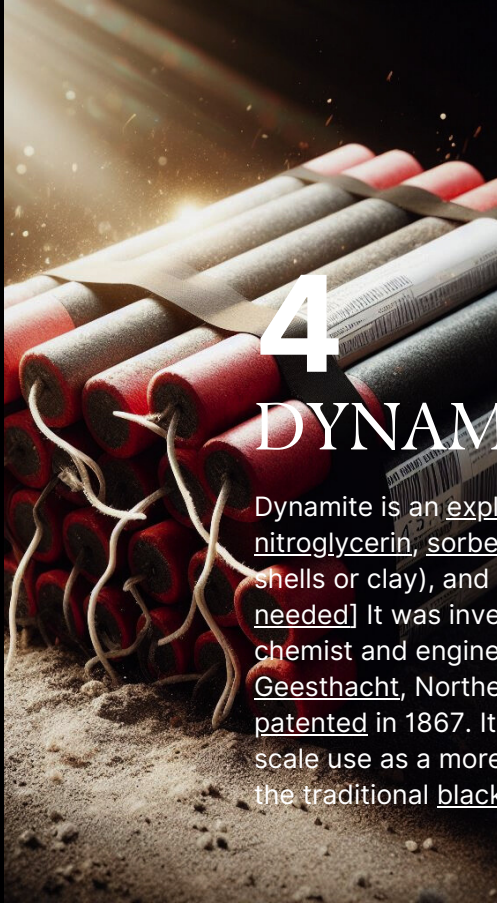
Alternating current empowered the mass charge of numerous countries around the globe and can be viewed as the main essential to different creations and electrical inventions found over the centuries. It additionally empowered things like electrical engines and transformers to turn into a reality.



2 THE TELEPHONE

Alexander Graham Bell is credited with being the inventor of the telephone since his patent and demonstrations for an apparatus designed for “transmitting vocal or other sounds telegraphically... causing electrical undulations” were successful. First Bell Telephone, June

K. Tejaswini



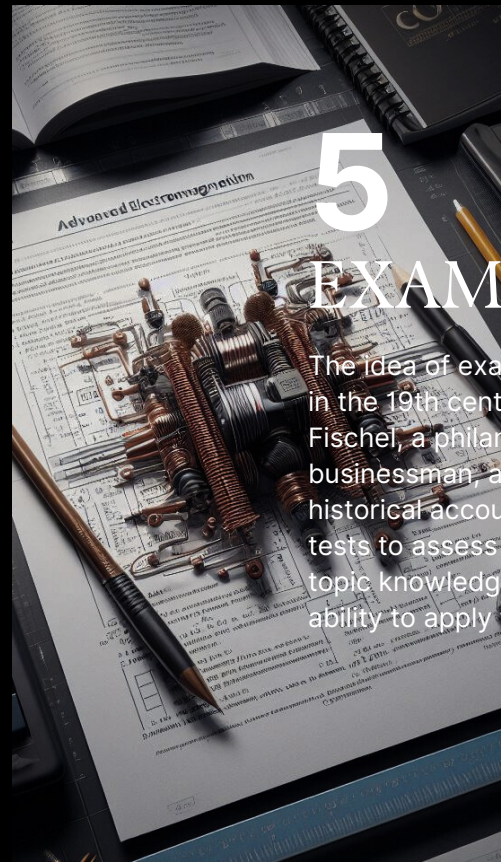
4 DYNAMITE

Dynamite is an explosive made of nitroglycerin, sorbents (such as powdered shells or clay), and stabilizers.^[citation needed] It was invented by the Swedish chemist and engineer Alfred Nobel in Geesthacht, Northern Germany, and was patented in 1867. It rapidly gained wide-scale use as a more robust alternative to the traditional black powder explosives.



3 the incandescent lamp.

Thomas Edison began serious research into developing a practical incandescent lamp in 1878. Edison filed his first patent application for "Improvement in Electric Lights" on 14 October 1878.



5 EXAMS

The idea of exams was developed in the 19th century by Henry Fischel, a philanthropist and businessman, according to historical accounts. He devised tests to assess students' general topic knowledge as well as their ability to apply that information.



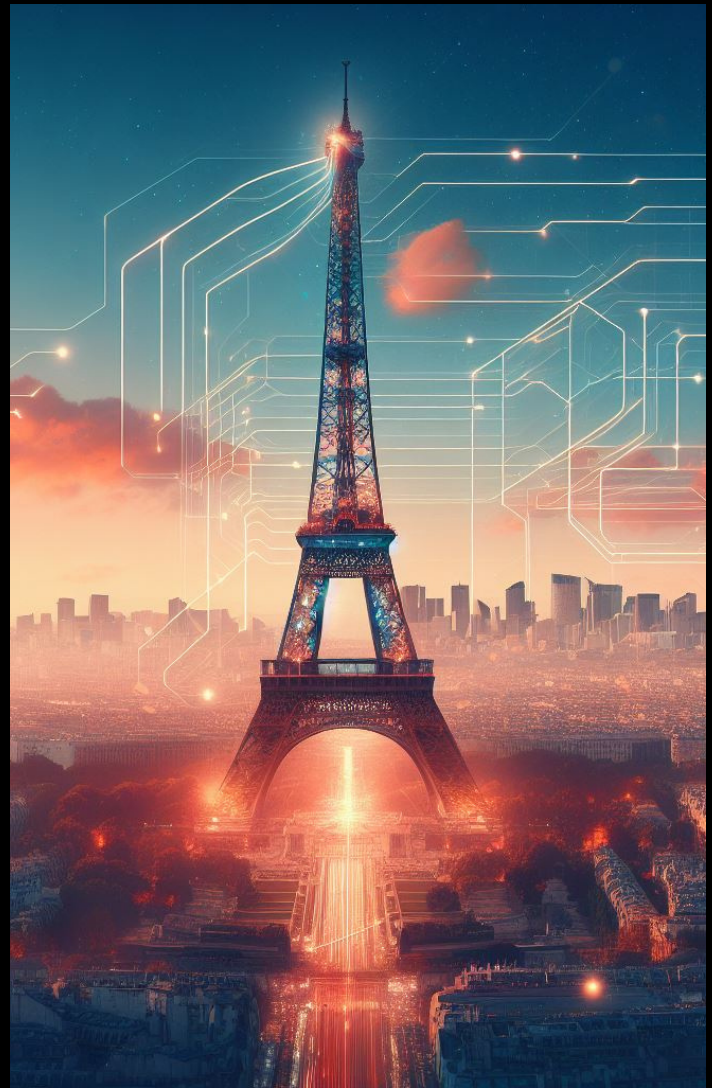
THE STORY BEHIND

P. Pujitha

EIFFEL TOWER

Eiffel Tower is a wrought-iron lattice tower on the Champ de Mars in Paris, France. It is named after the engineer Gustave Eiffel, whose company designed and built the tower from 1887 to 1889. Locally nicknamed "La dame de fer" (French for "Iron Lady"), it was constructed as the centerpiece of the 1889 World's Fair, and to crown the centennial anniversary of the French Revolution. Although initially criticised by some of France's leading artists and intellectuals for its design, it has since become a global cultural icon of France and one of the most recognisable structures in the world. The tower received 5,889,000 visitors in 2022.

The Eiffel Tower is the most visited monument with an entrance fee in the world 6.91 million people ascended it in 2015. It was designated a monument historique in 1964, and was named part of a UNESCO World Heritage Site ("Paris, Banks of the Seine") in 1991. The tower is 330 metres (1,083 ft) tall, about the same height as an 81-storey building, and the tallest structure in Paris. Its base is square, measuring 125 metres (410 ft) on each side. During its construction, the Eiffel Tower surpassed the Washington Monument to become the tallest human-made structure in the world, a title it held for 41 years until the Chrysler Building in New York City was finished in 1930.



It was the first structure in the world to surpass both the 200-metre and 300-metre mark in height. Due to the addition of a broadcasting aerial at the top of the tower in 1957, it is now taller than the Chrysler Building by 5.2 metres (17 ft). Excluding transmitters, the Eiffel Tower is the second tallest free-standing structure in France after the Millau Viaduct.

Excluding transmitters, the Eiffel Tower is the second tallest free-standing structure in France after the Millau Viaduct. The tower has three levels for visitors, with restaurants on the first and second levels. The top level's upper platform is 276 m (906 ft) above the ground



EVENTS

- AWARENESS PROGRAMME
- PCB WORKSHOP

AWARENESS PROGRAMME



I am honored to be here today to talk about the importance of drug awareness programs in educational institutions. Drug abuse is a serious problem that affects not only the individual but also the society as a whole. It is a problem that needs to be addressed at all levels, and educational institutions play a crucial role in this regard.

The police department has taken the initiative to conduct drug awareness programs in educational institutions to educate students about the dangers of drug abuse and addiction. These programs aim to create awareness among students about the harmful effects of drugs and the importance of leading a healthy and drug-free life.

Through these programs, students will learn about the different types of drugs, their effects on the body and mind, and the risks associated with drug abuse. They will also learn about the legal consequences of drug abuse and the importance of seeking help if they or someone they know is struggling with addiction.

The police department is committed to working with educational institutions to create a safe and drug-free environment for students.

PCB WORKSHOP



One week workshop on printed circuit boards was organized by the department of EEE, from 26th JAN to 31st JAN. The expert Ms.Sk.Rubeena explained various concepts of Printed Circuit Boards related aspects right from the fundamentals for IIInd year B.Tech EEE students.

The workshop was aimed to provide knowledge about complete PCB designing using simulation tool to test electronics & electrical circuit in software environment.PCB design software & to make physical PCB at home so that any student can make project on his own.

Following content are covered in workshop:

- ✓ Schematic Design
- ✓ Component Footprint Design
- ✓ Integrated Library Design
- ✓ PCB Design & Routing

The Principal of Geethanjali institute of science and technology, Prof.Dr.K.Sundeepkumarin the inaugural address also mentioned the necessity of the printed circuit.boards in the related fields of Electrical Engineering.

ORIENTATION PROGRAMME



It is my pleasure to welcome you all to this orientation program.

Orientation programs are an essential part of the educational experience, as they help new students adjust to college life and provide them with the tools they need to succeed.

The purpose of this orientation program is to introduce you to our institution, its culture, and its values. During this program, you will learn about the various academic programs we offer, the resources available to you, and the policies and procedures that govern our institution.

We understand that starting college can be overwhelming, and that's why we have designed this program to help you make a smooth transition. We want you to feel comfortable and confident as you begin your academic journey with us.

In addition to providing you with information about our institution, this program is also an opportunity for you to meet your fellow students and faculty members. We encourage you to take advantage of this opportunity to make new friends and build relationships that will last a lifetime.